

WIRELESS ROUTERS

INTRODUCTION

A home network is a brilliant way of sharing resources such as files, a broadband internet connection or storage devices between multiple computers. A wireless router provides everything you need to set this up. The main attraction of a wireless network is that it enables you to use a notebook to browse the internet from your sofa, your kitchen or even the garden. If you don't want to run cables all over your home, buying a suitable wireless adaptor means you can connect without wires wherever you are.

Wireless routers also have wired network ports, so you can use cables to connect network-attached storage (NAS) devices, for example. With tools built into Windows, you can share files and even your printer over a network.

This month we've tested nine wireless routers. Three are 54Mbit/s 802.11g ADSL routers and are good for simple internet sharing, while the six fast Draft-N routers (four standard, two ADSL) offer improved transfer speeds for fast file sharing. We've tested each for performance and features, so you can find the right router for you.

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SPECIAL AIR SERVICE

Wireless networks are easy to set up and let your PCs share everything from an internet connection to storage devices. We test nine wireless routers

D Connect one end of an Ethernet network cable to one of the numbered ports on the back of the Router. Connect the other end to an Ethernet port on a network device, e.g., a PC, print server, or switch.

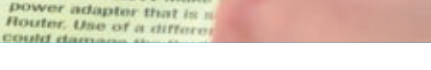
Repeat this step to connect more PCs or other network devices to the Router.

E Power on the broadband modem.

Connect the included power adapter to the Router's Power port, and then plug the power adapter into an electrical outlet. The Power LED on the front panel will light up when the adapter is connected properly.

F Power on your PC(s).

Locate an optimum location for this Router. The best place...



Choosing a... Wireless Router

The type of internet connection you have will dictate your choice of wireless router. If you have an ADSL connection that links to your computer through a USB modem, you'll need an ADSL router. These come with the necessary modem built in, and your phone line plugs directly into the device. We have five suitable models, each with ADSL2+ modems, for use with the fastest broadband connections.

If you have cable internet from a company such as Virgin Media that connects to your PC by Ethernet, you'll need a regular non-ADSL router. These are generally cheaper than ADSL routers, as they don't have a built-in modem. We've got six suitable models.

SPEED TRAP

Once you know which type of wireless router you need, the choices become slightly more complicated. Your router is the heart of your network and links your wired and wireless devices together, so it's essential that you get the features you need.

The first decision to make is the type of wireless standard you want to use. The fastest official standard is currently 802.11g, which runs at a maximum of 54Mbit/s and has a high level of compatibility with existing wireless devices, including backwards

compatibility with 11Mbit/s 802.11b devices. Typically, this standard offers throughputs that are good enough for web browsing and light file sharing. Transferring large files is slow and tedious, and not recommended.

Some manufacturers also offer technologies that increase these throughputs, but you'll need a matching network adaptor from the same company to take advantage of them. Channel-bonding (as used by Netgear's RangeMax Wireless Modem Router) uses two wireless channels to double potential throughputs to 108Mbit/s, but interference can become a problem. Frame bursting (as used by Buffalo's WBM-R-G125) reduces the time delay between sending packets of information, potentially increasing throughputs to 125Mbit/s. This technology is preferable to channel bonding as it uses a single wireless channel, so interference is less of a problem. Our table tells you which technology a manufacturer has used, as well as the router's maximum throughput.

For increased range and stability, some routers also use Multiple In Multiple Out (MIMO) technology. This uses several antennas at the same time to improve signal reception and transmission. The result is faster throughputs and a wider range. Again, to take full advantage of the technology, you'll need a matching





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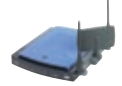


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Draft-N ADSL Routers

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D-LINK DKT-810 Wireless N ADSL2+
Modem Router Starter Kit
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Draft-N Wireless Routers

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network adaptor. Our table on page 96 tells you which routers use MIMO.

The ratification of a faster standard, 802.11n, has been going on for a few years now, but you can buy routers based on an early draft of this standard, called Draft-N routers. Our table tells you which routers use this.

Draft-N routers use a combination of new and old techniques, including MIMO and channel-bonding, to increase throughputs to a maximum of 300Mbit/s when used with a matching network adaptor. They're also compatible with 802.11g and 802.11b devices.

Draft-N routers are particularly attractive if you want to share files or stream media around your house. The graphs on page 94 show how each of the routers performed in our tests, so you can get one that's fast enough for your needs. The downside is that as these routers use a draft standard there's no guarantee that you'll be able to upgrade them to the full standard when it's ratified later this year.

If you want to use wired devices, you should consider the type of network ports on offer. Most of the routers here have four 10/100 Ethernet ports. These provide faster transfer rates than any wireless connection and are great for sharing files. However, if you're planning to use network storage and will be transferring a lot of large files, look for a router with Gigabit Ethernet ports. These are ten times quicker than 10/100

ports operating at 1,000Mbit/s. Both Netgear's RangeMax Next Wireless-N Router Gigabit Edition and Linksys's Wireless-N Gigabit Router with Storage Link provide this fast wired networking standard.

SECURE IT

Security is absolutely essential on all wireless routers, and wireless networks should be encrypted. The oldest standard you can use is Wired Equivalent Privacy (WEP). This is often difficult to configure, as it requires the use of long hexadecimal phrases. It's also insecure and has been cracked. WiFi Protected Access (WPA) is a newer and preferred standard that's more secure and is easier to use as you can assign a regular password for access. All the routers here, except TrendNet's TEW-435BRM, also support the even newer WPA2.

Every router has a built-in firewall, which blocks incoming traffic to your network to stop hacker attacks. The downside is that certain applications, including games and video calls, require incoming connections. This is where Universal Plug and Play (UPnP) support, which is available on every router here, can help. When you connect a UPnP-compatible device – such as an Xbox 360 games console, Slingbox TV streamer and MSN Messenger – to your network, it can automatically configure the firewall to allow the communication it needs.

If you want to run a specific service or server that doesn't use UPnP, such as your own web server, you need to configure port forwarding (also referred to as virtual servers). This passes traffic on a given port (such as port 80 for web traffic) to a designated PC on your network. See www.portforward.com for more information and detailed instructions on how to configure your router.

If you use port forwarding, you should also use your router's dynamic DNS option. This automatically updates your URL, for example myhouse.dyndns.org, so that it refers to your current home IP address. If your ISP then changes your IP address, as many of them do if you switch off your router or disconnect from the internet, the URL updates so that it points to the new address. Each router here except Buffalo's Wireless-N Nfiniti Broadband Router has this feature.

QUALITY OF LIFE

If you use a lot of time-sensitive applications, such as VoIP and video streaming, Quality of Service (QoS) is important. This lets you configure your router so that these applications have priority over others, such as web browsing. This way you can make sure that a large file download doesn't ruin an important phone call. Our reviews tell you if a router has QoS, and how easy it is to configure.



BUFFALO WBMR-G125

★★★★★

£50 inc VAT

From [www.lambda-tek.com/
componentshop](http://www.lambda-tek.com/componentshop)

Buffalo's WBMR-G125 won our Best Network Product 2007 (*Shopper* 238), so we decided to see how it fares against the current competition. Although it's an 802.11g router, it has a turbo mode that increases throughput from 54Mbit/s to 125Mbit/s when used with Buffalo's own network adaptors.

The router's setup wizard is easy to follow and takes you through internet, wireless and security settings. If you're using Centrino or Buffalo network adaptors and you install the supplied client software, you can use the Airstation One-Touch Secure System (AOSS) to transmit wireless settings automatically at the touch of a button. This works well, but it's just as easy to type in the encryption password.

The web interface can be used to configure advanced settings, including port forwarding and QoS. This gets a little confusing, though. The Internet/LAN settings page has a QoS option, but it's full of confusing terms such as Unlimited Bit Rate (UBR) and Peak Cell Rate (PCR) that the manual doesn't explain. They're actually for controlling the ADSL line, and you don't need to change them.

The QoS settings you actually need are found under the Gaming Ports section. Here you can set high, medium or low priority for five predefined applications including FTP, HTTP (web) and email. You can define custom applications, such as for Skype, but you'll need to find out the port numbers they use.

Performance and range were excellent. With our Centrino notebook we got a fast throughput of 19.4Mbit/s at 1m and a reasonable 3.42Mbit/s at 25m. Switching to Buffalo's WLI-CB-G54S CardBus adaptor (£15) improved this, giving us a throughput of 28Mbit/s at 1m and 6.53Mbit/s at 25m. You should have no problem browsing the web from anywhere in your house.

Buffalo's WBMR-G125 is a great product. The low price of the router and network adaptors makes it great value if you simply want to share an ADSL broadband connection.

SUMMARY

- ✓ Excellent performance; easy to set up
- ✓ Quality of Service
- ✗ No WPA2 in setup wizard

ADSL2+ WIRELESS ROUTER 802.11g (125Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP, QoS
PART CODE WBMR-G125
DETAILS www.buffalo-technology.com



NETGEAR RangeMax Wireless Modem Router

★★★★

£55 inc VAT

From www.ebuyer.com

Netgear's RangeMax Wireless Modem Router has the most comprehensive CD-based setup wizard here. At the end of the process you'll have an internet connection and a secured wireless network.

There are no QoS settings, which is a shame if you use VoIP or other time-sensitive applications a lot. As with Trendnet's TEW-435BRM, Netgear has implemented web filtering. You can restrict access to websites based on address and keywords, and schedule times at when the web is available. It's great if you've got kids, but the manual configuration has to be done carefully. For example, filtering by the keyword 'sex' would immediately block access to any website with the word 'middlesex' in it.

There's the usual range of advanced settings, including UPnP (which is switched on by default) and port forwarding. Netgear's web interface is excellent and has a sidebar that contains help on the current settings. There are no QoS settings, though.

Although the router doesn't have any visible antennas, the case houses seven of them for MIMO. This should help increase range and throughput. It also offers channel-bonding, which uses two wireless channels to double the potential throughput from 54Mbit/s to 108Mbit/s when used with one of Netgear's matching network adaptors.

Despite this, performance wasn't as good as we'd hoped. With our Centrino notebook the RangeMax produced the worst throughputs here – just 11.02Mbit/s at 1m. It was also the only router that failed to connect at 25m.

Switching to the Netgear's WPN511 CardBus adaptor (£23 from www.pixmania-pro.co.uk) didn't improve performance much. The 14.26Mbit/s throughput at a range of 1m isn't very impressive, and the 2.54Mbit/s at 25m was the worst result here.

The RangeMax is very easy to configure, but its poor throughputs mean that Buffalo's WBMR-G125 router is by far the better buy.

SUMMARY

- ✓ Easy to set up; simple web-based management
- ✗ Poor performance
- ✗ No Quality of Service

ADSL2+ WIRELESS ROUTER 802.11g (108Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP
PART CODE DG834PN
DETAILS www.netgear.co.uk



TRENDNET TEW-435BRM

★★★★

£63 inc VAT

From www.trendnetdirect.co.uk

Trendnet's TEW-435BRM is a standard 802.11g router with an ADSL2+ modem. It doesn't have any turbo modes, so it's limited to a maximum throughput of 54Mbit/s. It's also the only router in this category that doesn't have a CD-based setup wizard. Instead, you need to use its web-based management page to run the setup wizard.

This is pretty easy to follow, but it only covers getting your internet connection working, and there's no help for wireless networking. Instead, you need to configure wireless separately and enable security. This router supports only WPA and not the newer WPA2 standard. This isn't a huge drawback, though, and WPA is secure enough for use at home.

Configuring the advanced features is quite easy. Port forwarding in particular works really well. The virtual servers dialog box has a list of common services including web, FTP and email. To set up a port forward, you simply pick a service and select a PC from a drop-down box. The router generates a list of computers automatically every time one connects. There's also a Special applications page where you can define additional services. A web filter option enables you to restrict access to websites by address or keyword; it's handy for parents, but needs to be carefully configured. Sadly, there are no QoS settings.

Performance was about average for an 802.11g wireless router in all our Centrino tests, although the 3.54Mbit/s at 25m was encouraging, as it shows that you can still browse the web at a reasonable distance from the router. Switching to the TEW-421PC CardBus adaptor (£14) produced similar results in all our tests. This was to be expected, as there's no turbo mode.

This adaptor is good value, but it has no Windows Vista drivers, only Windows XP. The TEW0435BRM is reliable and works well if you just want to share an internet connection for web browsing. That said, it costs £17 more than Buffalo's WBMR-G125 and doesn't have QoS or a turbo mode, so it's not as good value.

SUMMARY

- ✓ Good performance
- ✓ Simple web-based management
- ✗ No Quality of Service

ADSL2+ WIRELESS ROUTER 802.11g (54Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP
PART CODE TEW-435BRM
DETAILS www.trendnet.com



LINKSYS WAG325N



£68 inc VAT
From www.ebuyer.com



Linksys's WAG325N won a Best Buy award in *Shopper* 235, so we wanted to find out how it compares with the latest devices. It has three antennas: two are the usual size, but there's also a single high-gain antenna. None can be replaced.

Configuration is very easy. A CD-based setup wizard takes you through configuring your internet connection and setting up a secure wireless network. That's enough for most people, but the web-based management interface offers much more.

This router has the most comprehensive QoS settings here. You can tell it how much bandwidth your line has, so that it knows how much it can assign to each application. It can also auto-detect your internet bandwidth.

It's then a matter of configuring the applications you want to prioritise and how important they are (high, medium or low priority). Linksys provides a decent set of default settings for applications including Skype and MSN. You can also create custom applications, but you'll need to find out which ports they use to do this.

There's also keyword and web address filtering, complete with scheduling, so that you can block access to unsavoury sites. As with the other routers here that support this feature, you'll need to configure these settings carefully to avoid blocking legitimate sites.

Performance was excellent with our Centrino notebook. The throughput of 18.78Mbit/s at 1m may not sound like much, but 15.16Mbit/s at 25m shows that this is a powerful router capable of maintaining a strong connection at distance.

Switching to the WPC300N-UK CardBus adaptor (£47 from www.lambda-tek.com/componentshop) improved things no end, and the router achieved the second-fastest throughputs here. In particular, the throughput of 20.98Mbit/s at 25m is excellent.

The WAG325N was great when we first reviewed it, and is still brilliant now. It's excellent value, with superb throughput and tons of features. It's an excellent buy.

SUMMARY

- ✓ Simple to set up and configure
- ✓ Very fast transfer speeds
- ✓ Excellent QoS

ADSL2+ WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP, QoS
PART CODE WAG325N-UK
DETAILS www.linksys.com



D-LINK DKT-810 Wireless N ADSL2+ Modem Router Starter Kit



£115 inc VAT
From www.it247.com

D-Link's DKT-810 is a Draft-N ADSL2+ wireless network starter kit that consists of a DSL-2740B router and a DWA-410 USB adaptor, covered by a long 11-year warranty. The router has three antennas, which you can replace with high-gain models that use R-SMA connectors if you find that you need more range.

Installation is simple, as D-Link provides an excellent CD-based configuration wizard. This takes you through connecting the router, configuring the internet settings and enabling a secure wireless network. The web-based management interface is used to configure the router's more advanced settings, such as QoS. At first glance it looks as if it will be quite easy to configure, as there's a set of predefined applications that include VoIP, H.323 video conferencing and FTP. Rather than simply selecting which ones you want to prioritise, however (the QoS scheme is automatic, and you can't set priority levels), you also need to provide the ports on which they run.

Throughputs using our Centrino notebook were about average for an 802.11g router, with 15.58Mbit/s at 1m and 14.48Mbit/s at 10m. However, the 11.57Mbit/s at 25m shows that the router can put out a strong signal. Using an 802.11g laptop you'd be able to browse the web comfortably from anywhere in your home.

One benefit of Draft-N equipment is that its faster throughputs should enable you to share files and stream video. We were a little disappointed in the performance from the bundled DWA-410 USB adaptor. Throughput at 1m was just 24Mbit/s. Moving to 10m improved this to 36.83Mbit/s, but at 25m we got only 9.2Mbit/s. This performance was worse than with our Centrino notebook.

The DKT-810 kit would be great value if the USB adaptor were better. As it stands, Linksys's WAG325N is better value, has a wider range of features and provides better performance across the board.

SUMMARY

- ✓ Simple to set up and configure
- ✓ 11-year warranty
- ✗ USB adaptor performance is disappointing

ADSL2+ WIRELESS ROUTER Draft 802.11n (270Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP, QoS
PART CODE DKT-810
DETAILS www.dlink.co.uk



D-LINK DIR-615



£48 inc VAT
From www.ebuyer.com

D-Link's DIR-615 looks very similar to the DSL-2740B ADSL router that comes with its DKT-810 kit except that it has just two antennas rather than three. As with the DSL-2740B these can be removed and replaced with high-gain models with R-SMA connectors if you need better wireless range.

The DIR-615 uses a very similar CD-based setup wizard, which is no bad thing. D-Link has done a great job on it, and in just a few minutes it takes you through the entire process of configuring your internet settings and setting up a secure wireless network.

The DIR-615's web-based management pages are the same as for the DSL-2740B. You can use these to configure the router's advanced features, including QoS. As with the DSL-2740B there's a set of predefined applications you can prioritise, including VoIP, H.323 video conferencing and FTP. You still need to provide port numbers manually, though, so it's a little trickier to configure than it first appears.

Performance was excellent with our Centrino notebook, and the DIR-615 produced the second fastest throughputs overall. As well as being quick, with a throughput of 20.14Mbit/s at close range, it was powerful and managed 11.74Mbit/s at 25m. This means that you'll easily be able to browse the web from anywhere in your house.

Switching to the DWA-410 USB adaptor (£38 from www.pixmania.co.uk) wasn't as impressive. As with the DSL-2740B ADSL router, we had trouble getting the USB adaptor to work at high speed. Performance fluctuated between 23Mbit/s and 46Mbit/s at close range, giving an average of 32.1Mbit/s. At 25m we were disappointed to get a worse result than we obtained with our Centrino notebook.

While the Draft-N performance we experienced wasn't great and we wouldn't use this combination for file sharing or streaming HD video, the DIR-615 is still a good router. If you just want to share your cable internet connection, this cheap router with excellent Centrino performance will suit you.

SUMMARY

- ✓ Decent Centrino throughput; QoS
- ✓ 11-year warranty
- ✗ Poor USB adaptor performance

WIRELESS ROUTER Draft 802.11n (270Mbit/s), 4x 10/100 LAN ports, 1x WAN port, UPnP, QoS
PART CODE DIR-615/B
DETAILS www.dlink.co.uk



BUFFALO Wireless-N Nfiniti Broadband Router

★★★★★

£58 inc VAT
From [www.lambda-tek.com/
componentshop](http://www.lambda-tek.com/componentshop)

BUDGET BUY Buffalo's Wireless-N Nfiniti Broadband Router is the second-cheapest Draft-N router on test. It's easy to set up, as Buffalo's CD-based setup wizard takes you through configuring your internet settings and setting up a secure wireless network.

You might expect a Draft-N router to be packed with features, but this one isn't. For starters, the antennas are fixed, so you can't replace them with high-gain models to improve throughput at long range.

We were also surprised to find that there's no QoS. This is odd as Buffalo managed to include this technology in its cheap WBM-R-G125 wireless router. We were also slightly surprised to find no support for WEP at all. This is unlikely to be a problem unless you've got older devices that don't support WPA. Strangely, this is the only router here not to support Dynamic DNS.

As with all Buffalo's routers, the Wireless-N Nfiniti has AOSS, which can automatically transfer wireless settings to a computer with either a Buffalo or a Centrino network adaptor and the AOSS client software installed. It works really well, but we're not entirely convinced that it's that much easier than simply typing in the encryption password.

Performance with our Centrino notebook was about average, with throughputs of 15.08Mbit/s at 1m and 13.99Mbit/s at 10m. At 25m, the router's 7.73Mbit/s was good. Switching to Buffalo's WL12-CB-G300N CardBus adaptor (£40) improved performance immensely, and we got the fastest throughputs in the test. At 1m and 10m we saw a stunning 64.53Mbit/s, while at 25m we got an incredible 21.71Mbit/s, which is perfect for sharing files or streaming video.

If you need advanced features such as DDNS or QoS, the Wireless-N Nfiniti isn't a very good choice, but if all you want is lightning fast throughputs, it's superb value.

SUMMARY

- ✓ Excellent performance
- ✓ Very simple to configure
- ✗ No QoS or Dynamic DNS

WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100 LAN ports, 1x WAN port, UPnP
PART CODE WZR2-G300N-EU
DETAILS www.buffalo-technology.com



NETGEAR RangeMax Next Wireless-N Router Gigabit Edition

★★★★

£91 inc VAT
From www.broadbandbuyer.co.uk

Netgear's RangeMax Next Wireless-N Router Gigabit Edition might seem expensive but, as its name suggests, it has a four-port Gigabit Ethernet switch. This is perfect if you use a lot of wired clients and network storage, as you'll be able to transfer files quickly.

Netgear usually provides an excellent CD-based setup wizard, but we had trouble getting it to work, as an error message appeared saying that it couldn't detect a network adaptor. We had to switch to the router's web-based management page and set up the internet settings and wireless security separately. Fortunately, the web interface is easy to understand and it didn't take us long.

The Netgear doesn't have QoS built in, which is strange for such an expensive router. Web filtering is included, and you can filter sites by web address and keyword. Again, you'll have to be careful with your choice of keywords to avoid blocking legitimate sites.

We were impressed with the RangeMax Next Wireless-N's performance, as it achieved the fastest Centrino speed here. Throughputs of 21.51Mbit/s at 1m and 20.46Mbit/s at 10m are great, but it was the 15.08Mbit/s at 25m that really impressed us.

Throughputs were still impressive after switching to Netgear's WN511T CardBus adaptor (£38 from www.pixmania-pro.co.uk), although not up to the high standards of Buffalo's Wireless-N Nfiniti Broadband Router. Even so, 53.09Mbit/s at 1m and 16.47Mbit/s at 25m are still impressive and good enough for file and video sharing.

If you've got network storage and wired clients, the RangeMax Next Wireless-N's Gigabit Ethernet switch looks attractive. With incredible Centrino performance and quick Draft-N throughputs, it's a good router. However, it's expensive considering that it doesn't have QoS. Buffalo's Nfiniti router is a better choice for most people.

SUMMARY

- ✓ Gigabit switch; excellent Centrino performance
- ✗ No QoS
- ✗ Expensive

WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100/1,000Mbit/s LAN ports, 1x WAN port, UPnP
PART CODE WNR854T
DETAILS www.netgear.co.uk

DRAFT-N WIRELESS ROUTERS



LINKSYS Wireless-N Gigabit Router with Storage Link

★★★★★

£103 inc VAT
From www.kikatek.com

MOST WANTED Linksys's Wireless-N Gigabit Router with Storage Link looks very similar to the company's WAG325N, but it doesn't have an ADSL modem. The CD-based setup wizard is very similar, too, taking you through configuring your internet settings and getting a secure wireless network.

Once you're on the web-based management page, you'll find that even this looks familiar. It offers the same excellent options for QoS as the WAG325N, which allow you to prioritise traffic by type, and are the best that we've seen.

The big differences, though, are that it has a four-port Gigabit Ethernet switch, a USB port and Linksys's Storage Link technology. Plug a USB storage device into the port and you can share its contents. It's more than simple file sharing, though, as you can set up different users and give them different permissions. The speed at which you can share files will really depend on the type of storage you plug in. We managed to get 5.4MB/s when reading from a 1.8in external hard disk. As well as file sharing over the network, the router has an FTP server. Here you can designate a single folder that you want to share and then access it from anywhere in the world.

For music and video, the Wireless-N Gigabit Router has a UPnP media server on it, so you can share these files with media receivers easily.

Performance with our Centrino notebook was almost identical to that of the WAG325N, but we got only 2.45Mbit/s at 25m. When we used the WPC300N-UK CardBus adaptor (£47 from www.lambda-tek.com/componentshop), throughputs increased to 41.4Mbit/s at 1m, and a rapid 10.94Mbit/s at 25m.

The Wireless-N Gigabit Router is expensive and not as fast as its competitors, but for flexibility and features it can't be beaten, and it's great if you want to share a USB hard disk.

SUMMARY

- ✓ Gigabit switch; USB port for storage
- ✓ Excellent QoS settings
- ✗ Expensive

WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100/1,000Mbit/s LAN ports, 1x WAN port, UPnP, QoS
PART CODE WRT350N-UK
DETAILS www.linksys.com

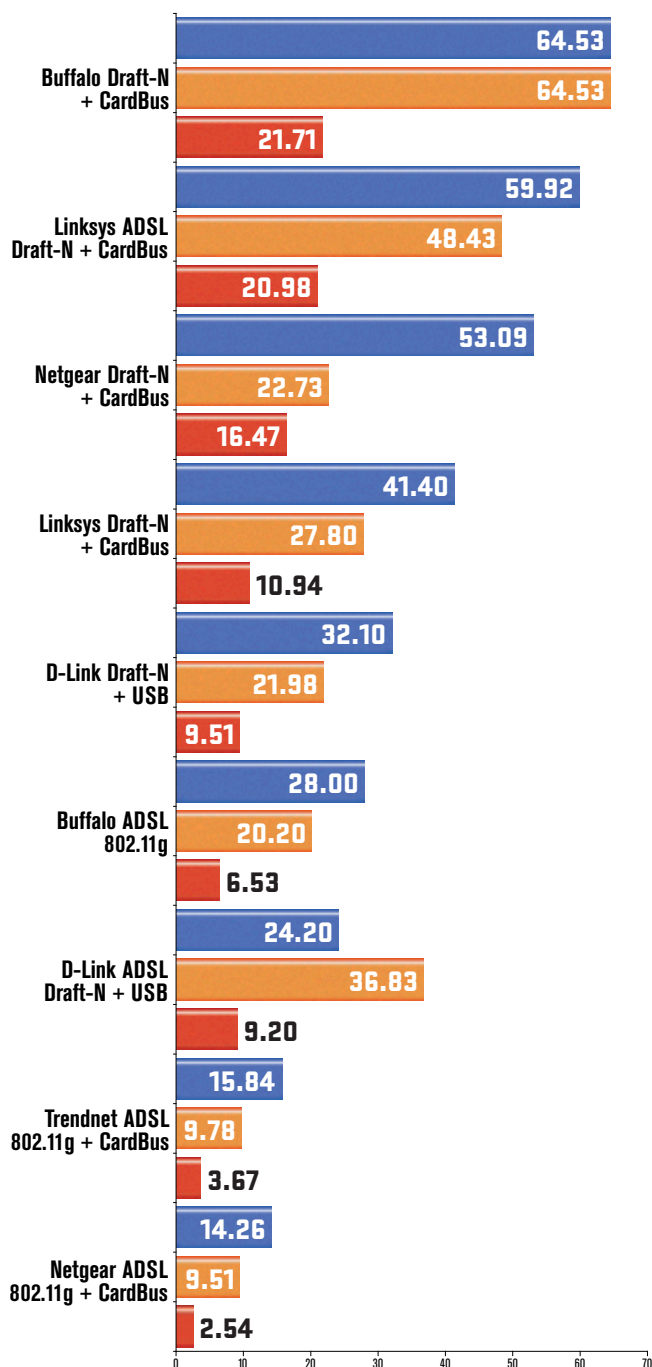
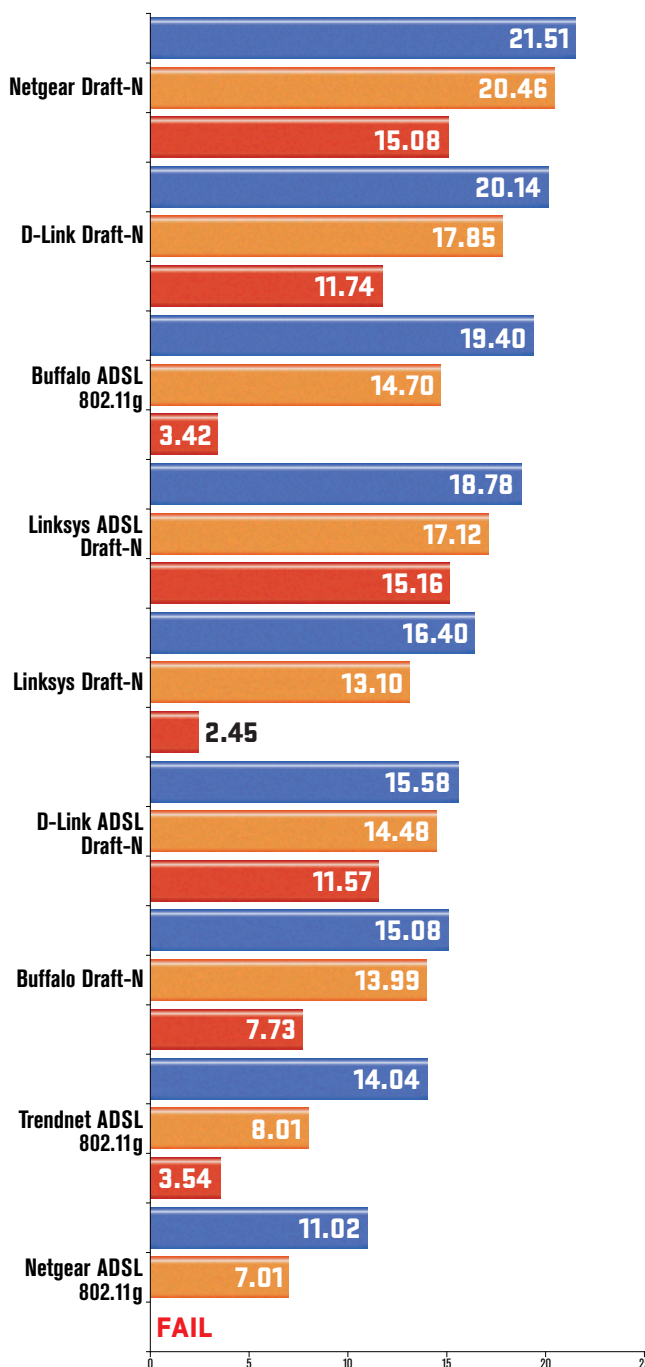
BENCHMARKS

1m

15m

25m

Router speed Transfer speeds at 1m, 15m and 25m ranges

With own-brand adaptor (Mbit/s)

With Centrino notebook (Mbit/s)


How we test Wireless routers

There are several aspects to consider when choosing a wireless router. First, a router should be easy to configure. By the time you have finished the configuration process, you should have an internet connection and a secure, reliable wireless network. We follow each router's setup instructions to ensure that they achieve this.

Performance is incredibly important, both in terms of throughput and stability at

various ranges. To see how the wireless routers perform we configure them with WPA2 security (or WPA if not available) and time a 100MB file transfer across the network from a notebook to a PC connected by Ethernet at 1m, 10m and 25m. We do this three times and take the average. Each test is run on both a standard Centrino notebook and with one of the manufacturer's own-brand adaptors to take advantage of any turbo modes available.

If the results are lower than we'd expect or the signal is unreliable, we change the wireless channel and other advanced settings to get the best throughput. You can see the results on the graphs above.

Finally, advanced settings such as port forwarding and QoS should be easy to change, so we spend a lot of time with each router's web-based management page. We note the results of this in our reviews.



	802.11G ADSL ROUTERS			DRAFT-N ADSL ROUTERS			DRAFT-N ROUTERS		
	★ BEST BUY			★ BEST BUY			👤 BUDGET BUY		
MANUFACTURER	BUFFALO	NETGEAR	TRENDNET	LINKSYS	D-LINK	D-LINK	BUFFALO	NETGEAR	LINKSYS
Model	WMBR-G125	RangeMax Wireless Modem Router	TEW-435BRM	WAG325N	DKT-810 Wireless N ADSL2+ Modem Router Starter Kit	DIR-615	Wireless-N Nfiniti Broadband Router	RangeMax Next Wireless-N Router Gigabit Edition	Wireless-N Gigabit Router with Storage Link
Rating	★★★★★	★★★	★★★	★★★★★	★★★	★★★★	★★★★★	★★★	★★★★
Modem type	ADSL2+	ADSL2+	ADSL2+	ADSL2+	ADSL2+	None	None	None	None
802.11b support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
802.11g support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Draft 802.11n support	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
MIMO	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Turbo mode	Frame-bursting	Channel-bonding	None	Channel-bonding	Channel-bonding	Channel-bonding	Channel-bonding	Channel-bonding	Channel-bonding
Stated speed	125Mbit/s	108Mbit/s	54Mbit/s	300Mbit/s	270Mbit/s	270Mbit/s	300Mbit/s	300Mbit/s	300Mbit/s
SECURITY									
256-bit WEP	No	No	No	No	No	No	No	No	No
128-bit WEP	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
WPA	PSK (TKIP, AES)	PSK (TKIP), RADIUS	PSK (TKIP)	PSK (TKIP, AES), RADIUS	PSK (TKIP, AES)	PSK (TKIP, AES)	PSK (TKIP, AES)	PSK (TKIP)	PSK (TKIP, AES), RADIUS
WPA2	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Firewall	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MAC address filtering	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHYSICAL									
Dimensions including antenna (HxWxD)	28x150x145mm	31x223x153mm	30x175x115mm	40x188x176mm	32x220x150mm	30x193x116mm	33x152x150mm	225x39x175mm	40x188x176mm
Antennas	1	7	1	3	3	2	3	3	3
Internal/external antennas	External	Internal	External	External	External	External	External	Internal	External
Antenna socket	No	No	Yes	No	Yes	Yes	No	No	No
WAN ports	1	1	1	1	1	1	1	1	1
LAN ports	4x 10/100	4x 10/100	4x 10/100	4x 10/100	4x 10/100	4x 10/100	4x 10/100	4x 10/100/1,000Mbit/s	4x 10/100/1,000Mbit/s
Other ports	None	None	None	None	None	None	None	None	USB
Wall mountable	Yes	No	Yes	No	Yes	Yes	Yes	No	No
OTHER FEATURES									
Dynamic DNS	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
UPnP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DHCP server	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MAC spoofing	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Port forwarding	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WDS support	No	No	No	No	No	No	No	No	No
USB device support	No	No	No	No	No	No	No	No	Yes
QoS	Yes	No	No	Yes	Yes	Yes	No	No	Yes
BUYING INFORMATION									
Price including VAT	£48 inc VAT	£55 inc VAT	£63 inc VAT	£68 inc VAT	£115 inc VAT	£48 inc VAT	£58 inc VAT	£91 inc VAT	£103 inc VAT
Warranty	Two years	Two years	Three years	Three years	11 years	11 years	Two years	Two years	Three years
Supplier	www.lambdatek.com/componentshop	www.ebuyer.com	www.trendnetdirect.co.uk	www.ebuyer.com	www.it247.com	www.ebuyer.com	www.lambdatek.com/componentshop	www.broadbandbuyer.co.uk	www.kikatek.com
Details	www.buffalo-technology.com	www.netgear.co.uk	www.trendnet.com	www.linksys.com	www.dlink.co.uk	www.dlink.co.uk	www.buffalo-technology.com	www.netgear.co.uk	www.linksys.com
Part code	WMBR-G125	DG834PN	TEW-435BRM	WAG325N-UK	DKT-810	DIR-615/B	WZR2-G300N-EU	WNR854T	WRT350N-UK

Labs verdict Wireless routers

We were pleasantly surprised at the performance and features on offer. Your choice will ultimately be influenced by the type of broadband you have, which is why we've split our awards into two categories: ADSL routers and standard routers.

If you just want an ADSL router for sharing an internet connection reliably, Buffalo's WMBR-G125 is a brilliant choice. It's fast with Centrino and even better with its own-brand adaptors, which are great value. It's inexpensive and packed with high-end features, including QoS. It's our Best Buy.

If you'd rather have a Draft-N router, Linksys's WAG325N is the perfect choice. It's

incredibly quick, easy to configure and has the best QoS settings here. Available at a great price, it's our Best Buy Draft-N ADSL router.

If you want a standard wireless router with an Ethernet WAN port to connect to a cable broadband service, you can get a slightly better deal. D-Link's DIR-615 deserves a special mention here. It's packed full of features including QoS, but it costs just £48 including VAT, which makes it the joint-cheapest router here. While we weren't impressed with its Draft-N performance when used with a USB adaptor, its Centrino performance was brilliant, and it's a great choice if you just want to use it with your notebook.

For the quickest throughputs, Buffalo's Wireless-N Nfiniti Broadband Router is the best choice. It lacks some features, notably QoS, but it achieved the best throughputs here. If speed is your priority, it's a great choice and wins our Best Buy award.

Finally, Linksys's Wireless-N Gigabit Router with Storage Link router wins our Most Wanted award. It's expensive, but it has all the features of Buffalo's WAG325N, plus a USB port that lets you share an external hard disk on your network or by FTP, and configure a UPnP media server for streaming music and videos. With a Gigabit Ethernet switch, too, it's ideal if you want a lot of flexibility. **CS**

802.11g ADSL Routers



Draft-N ADSL Routers



Draft-N Routers



Draft-N Routers

